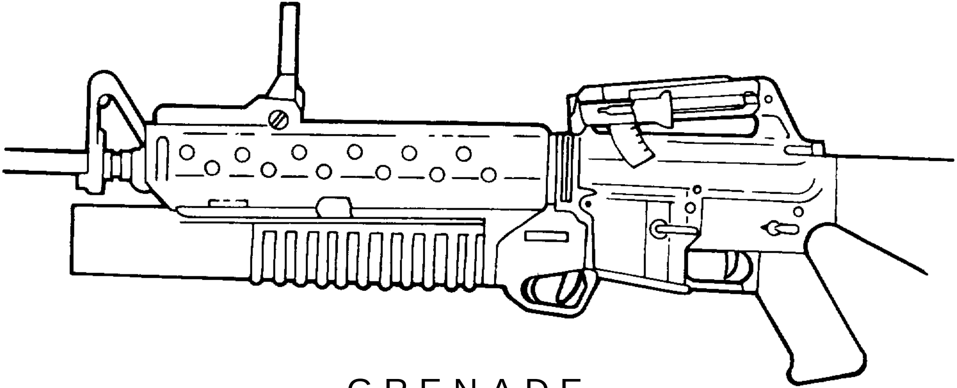
OPERATOR'S MANUAL

TM 9-1010-221-10



40-MM GRENADE LAUNCHER M203

(1010-00-179-6447)

This is a reprint which includes current pages from Changes 1 through 3.

HEADQUARTERS, DEPARTMENT OF THE ARMY

DECEMBER 1984

CHANGE **TM 9-1010-221-10**
C4

No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., 24 June 1992

Changes in Force: C1, C2, and C3

Operator's Manual
GRENADE LAUNCHER 40-MM, M203
(1010-00-179-6447)

TM 9-1010-221-10, 17 December 1984, is changed as follows:

Page b, add the following WARNING:

WARNING

Hearing protection is required for the user and all adjacent personnel on firing range, when using M585 Cartridge.

Page 2-20, add the WARNING, same as above.

Page 4-1, add the WARNING, same as above.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
02002

DISTRIBUTION:
To be distributed in accordance with DA Form 12-40-E, (Block 0544), Operator's Maintenance Requirements for TH 9-1010-221-10.

* GPO : 1995 0 - 388-421 (00334)

CHANGE

No. 3

TM 9-1010-221-10
C3

Changes in Force: C1 and C2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 9 December 1987

Operator's Manual
GRENADE LAUNCHER 40-MM, M203
(1010-00-179-6447)

TM 9-1010-221-10, 17 December 1984, is changed as follows:

Page a, paragraph 5, first sentence. Change “130 meters (427 ft)” to “165 meters (542 ft).”

Page b. Delete paragraph 4 in its entirety.

Page i. Supersedure notice is changed as follows: “*This manual supersedes TM 9-1010-221-10, dated 31 July 1974, and TM 9-1010-221-10HR, 10 May 1979, including all changes.”

Page 1-5. Delete paragraphs 1 and 2 in their entirety.

Page 1-5. Add new paragraph 1 to read: “Open the launcher barrel, place the weapon on safe, insert a round, and close the launcher barrel.”

Page 1-5. Renumber paragraphs “3 through 8“ to “2 through 7.”

Page 2-7. Delete illustrations of Bore Brush and Thong.

Page 2-13. Delete “USING M576 MULTIPURPOSE ROUND:”

Page 2-13. Change paragraph 1 to read: “For short range targets (31 meters or less), place leaf sight down and use rifle sights. Estimate distance to target and be sure to aim at the foot of the target (M576 round),”

Page 3-1. Add the following information to Section 1. LUBRICATION INSTRUCTIONS: “Wherever the term Cleaner Lubricant and Preservative (CLP) or the words lubricant, LUBE, LSA, Or LAW are cited in this TM, it is to be interpreted to mean CLP, LSA, or LAW can be utilized as applicable. The following constraints must be adhered to: (1) Under all but the coldest arctic conditions, LSA or CLP are the lubricants to use on your weapon. Either may be used at -10°F and above. However, do not use both on the same weapon at the same time. (2) LAW is the lubricant to use during cold arctic conditions, + 10°F and below. (3) Any of the lubricants may be used from -10°F to + 10°F, (4) Do not mix lubricants on the same weapon. The weapon must be thoroughly cleaned during change from one lubricant to another, Dry cleaning solvent (SD) (item 1.2, app D) is recommended for cleaning during change from one lubricant to another. (5) Rifle Bore Cleaner (RBC) (item 1.1, app D) may be used to remove carbon buildup in the bore and other portions of the weapon. (6) Dry cleaning solvent (SD) (item 1.2, app D) may be utilized for cleaning your weapons. However, SD MUST NOT be used on rubber or plastic.”

Page 3-3. Change step 4 to read: “Check barrel latch.”

Page 3-3. Remove the words "BARREL STOP" and the arrow from the far right illustration.

Page 3-5. Add the following CAUTION before the NOTE: "Do not use a screwdriver or any other tool when removing the hand guards, doing so may damage the hand guard and/or slip ring."

Page 3-6. Add a new step 6 to read: "Do not interchange barrels from one weapon to another."

Page 3-8. Left illustration "BARREL LATCH" callout is changed to "EXTRACTOR."

Page 3-12. Lower illustration - the safety should be shown in the "safe" position.

Page 4-3. Change "multiple purpose" or "multipurpose round" to "multiple projectile round" wherever it occurs.

Page C-2. Add: "1010-00-474-5462; CASE, SMALL ARMS: (19205) 7790630; EA; 1."

Page D-3. Add a new item 0.1:

ITEM NO.	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
0.1	C	1005-00-242-5687	BOTTLE, ASSEMBLY CYLINDRICAL (19204) 8448444	EA

Add new items 1.1 thru 1.4:

ITEM NO.	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
1.1			CLEANING COMPOUND, RIFLE BORE: small arms bore cleaning solution (RBC)	
	C	6850-00-224-6656	2-oz. (59.15-ml) bottle	Oz
	O	6850-00-224-6657	8-oz. (236.59-ml) can	Oz
	O	6850-00-224-6663	1-gal. (3.79-l) can (81349) MIL-C-372	GL
1.2	O	6850-00-281-1985	DRY CLEANING SOLVENT (SD) 1-gal. can (58536) A-A-711	GL

ITEM NO.	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
1.3	O	9150-00-292-9689	LUBRICATING OIL, WEAPONS: (LAW)	QT
			1-qt (0.95-I) can	
			(81349) MIL-L-14107	
1.4			LUBRICATING OIL, WEAPONS: (LSA), semifluid	
	C	9150-00-935-6597	2-oz. (59.15-ml) plastic bottle	Oz
	C	9150-00-889-3522	4-oz. (118.30-ml) bottle	Oz
	O	9150-00-687-4241	1-qt (0.95-I) can	QT
	O	9150-00-753-4686	1-gal. (3.79-I) can	GL
			(81 349) MIL-L-46000	

By Order of the Secretary of the Army:

CARL E, VUONO
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-40, operator Maintenance requirements for Launcher, Grenade, 40MM, M203.

CHANGE

No. 2

TM 9-1010-221-10
C2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC,

31 December 1985

Operator's Manual
GRENADE LAUNCHER 40-MM, M203
(1010-00-179-6447)

TM 9-1010-221-10, 17 December 1984, is changed as follows:

URGENT

Change the warnings on pages a., 1-4, 2-18, and 4-4 as follows:

Page a. In lines 7 and 8 change "130 meters" to "165 meters" and "427 ft." to "541 ft."

Page 1-4. In lines 2 and 3 change "130 meters" to "165 meters" and "427 ft" to "541 ft."

Page 2-18. In lines 1 and 3 change "130 meters" to "165 meters" and "427 ft" to "541 ft."

Page 4-4. In lines 1 and 2 change "130 meters" to "165 meters" and "427 ft" to "541 ft."

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

MILDRED E. HEDBERG
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-40, Operator's Maintenance requirements for Launcher, Grenade, 40-MM, M203.

CHANGE

No. 1

TM 9-1010-221-10
C1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, *22 April 1985*

Operator's Manual
GRENADE LAUNCHER 40-MM, M203
(1010-00-179-6447)

TM 9-1010-221-10, 17 December 1984, is changed as follows:

URGENT

Page 4-2 change the note to read:

NOTE

"The M781 practice round has an inert projectile, however it does contain a propelling charge.

No DUMMY ammunition is supplied for this weapon."

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

DONALD J. DELANDRO
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-40, Operator and Crew Maintenance requirements for Launcher, Grenade, 40mm, XM203.

WARNING

Do not point muzzle in direction of personnel when loading, clearing, zeroing, or firing grenade launcher as this will result in injury to, or death of, personnel.

Do not carry weapon in open position. Weapon must be carried in a closed and locked position with safety on.

Be sure safety is in safe position after loading grenade launcher.

Do not squeeze trigger and remove safety at the same time.

Be in a protected position when you fire HE grenades at targets within 130 meters (427 ft). Do not engage targets within 130 meter (427 ft) radius of unprotected friendly troops. The danger radius of the practice grenade is 20 meters (66 ft).

Do not fire canopy smoke cartridges so that a falling ignited projectile could descend upon friendly troops causing injury to personnel and/or damage to materiel.

WARNING (CONT)

Do not use cartridges other than those authorized for the 40-mm grenade launcher M203. Death or injury will result in use of unauthorized high explosive 40-mm cartridges. Use only authorized rounds.

Projectiles assembled with M552 (T333) fuzes will arm within 3 meters (10 ft) of weapon. Clear line of fire of all obstructions that will endanger personnel when weapon is fired.

Do not fire ammunition not made for use in the 40-mm grenade launcher M203. Doing so will result in injury to, or death of, personnel.

Do not interchange barrel assemblies or components from one weapon to another. Doing so will result in injury to, or death of, personnel

For additional first aid data, see FM 21-11.

TECHNICAL MANUAL
No. 9-1010-221-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC *17 December 1984*

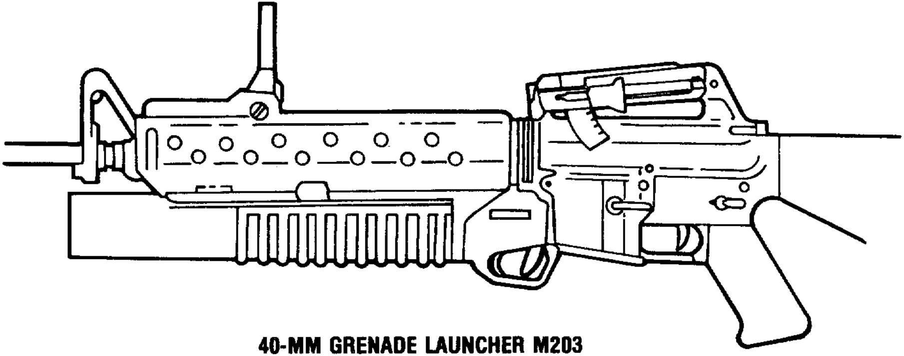
Oparator's Manual
40-MM GRENADE LAUNCHER M203
(1010-00-179-6447)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAS, Rock Island, IL 61299-6000. A reply will be furnished to you.

* This manual supersedes TM 9-1010-221-10, dated 31 July 1974, including all changes.

TABLE OF CONTENTS



40-MM GRENADE LAUNCHER M203

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

SCOPE

Type of Manual. Operator's

Model Number and Equipment Name. M203 Grenade Launcher

PURPOSE OF EQUIPMENT. The grenade launcher M203 was designed to be used with the M16A1 rifle, can be field-stripped in a hurry without special tools, and fires a 40-mm grenade.

MAINTENANCE FORMS AND RECORDS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

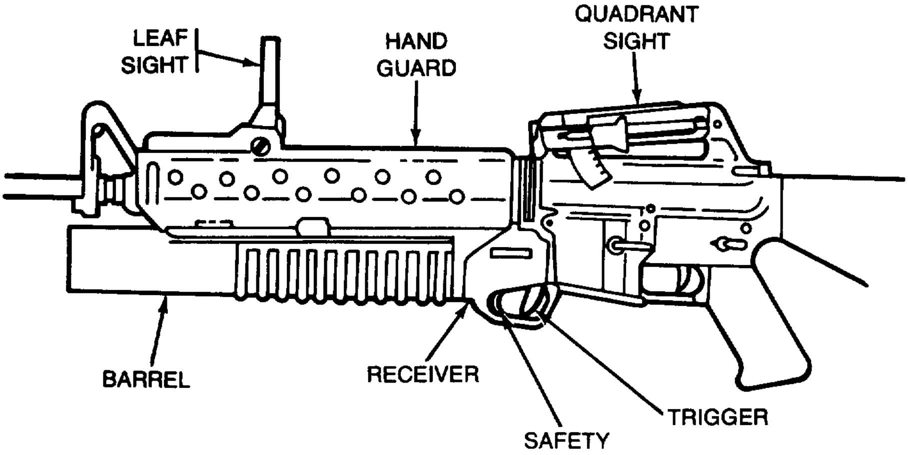
GENERAL INFORMATION (CONT)

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your grenade launcher needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment, Let us know why you don't like the design. Put it on an SF 366 (Quality Deficiency Report). Mail it to us at Commander, US Army Armament, Munitions and Chemical Command, AlTN: AMSMC-QAD, Rock Island, IL 61299-6000. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION

EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES. The grenade launcher M203 is a single shot weapon designed for use with the M16A1 rifle and fires a 40-mm grenade. It has a leaf sight and a quadrant sight.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. The launcher is composed of the following: barrel, receiver, hand guard, leaf sight, and quadrant sight.


LEAF
SIGHT
HAND
GUARD
QUADRANT
SIGHT
BARREL
RECEIVER
SAFETY
TRIGGER

EQUIPMENT DESCRIPTION (CONT)

EQUIPMENT DATA.

Weight:	
Launcher	1.35 kg (3 lb)
Rifle M16A1	2.93kg (6.5 lb)
Total	4.28kg (9.5 lb)
Maximum range:	400 meters (1,320 ft)

Maximum effective range:	
Area Target	350 meters (1,155 ft)
Point Target	150 meters (495 ft)
Minimum safe range:	
Combat situation	31 meters (102 ft)
Training situation	130 meters (427 ft)

WARNING

When you fire high explosive (HE) grenades at targets within 130 meters (427 ft), be in a protected position, When training, do not fire at targets within 130 meters (427 ft). When in combat, do not fire at targets closer than 31 meters (102 ft).

Section III. TECHNICAL PRINCIPLES OF OPERATION

1 Open the launcher barrel, insert a round, and close the launcher barrel.

2 Place launcher on safe.

3 Place the launcher to your shoulder. Keep muzzle pointed at target and move the safety from the safe to the fire position.

4 Aline the front and rear sight with the target and squeeze the trigger.

5 Squeezing the trigger releases the firing pin and allows it to impact the primer on the round.

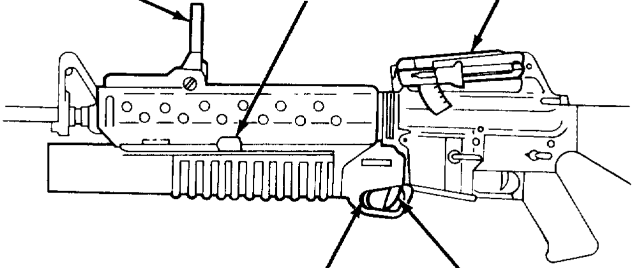
6 The primer ignites the propellant in the round.

7 Gas from the burning propellant pushes the projectile along the barrel of the launcher.

8 The rifling in the barrel causes the projectile to rotate, which provides stability during flight to the target.

CHAPTER 2
OPERATING INSTRUCTIONS

Section 1. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS



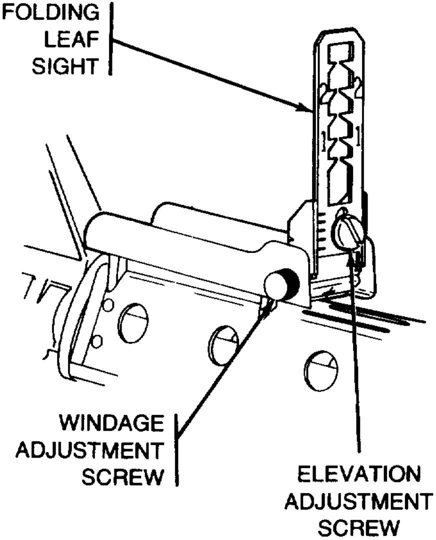
LEAF SIGHT

WARNING

The 50 meter (165 ft) mark on the leaf sight blade is marked in red to emphasize that this range is not to be used in zeroing procedures.

LEAF SIGHT lines up with front sight post of the M16A1 rifle.

- *Windage Adjustment* Screw turns clockwise to move leaf sight to left for wind from the left; turning it counterclockwise adjusts for wind from the right.
- *Elevation Adjustment Screw* loosens and lets you raise leaf sight blade to increase range, or lower leaf sight blade to decrease range.

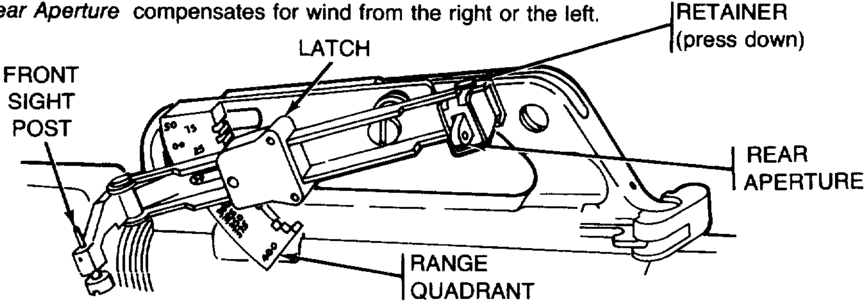


DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS (CONT)

QUADRANT SIGHT

QUADRANT SIGHT attaches to rifle handle/sight. To use, unfold front sight post and rear aperture.

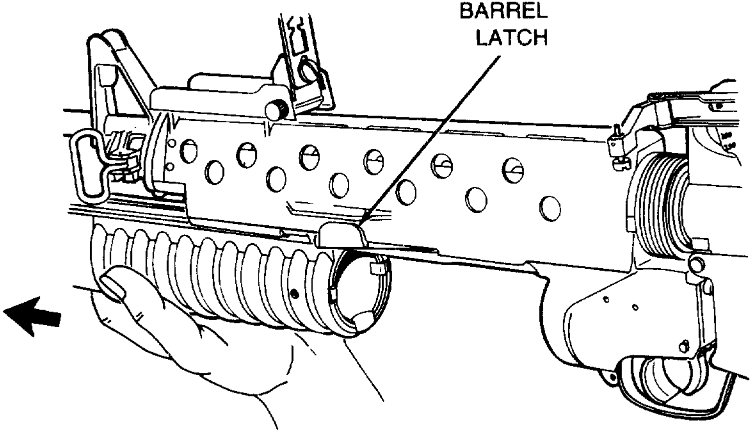
- *Latch.* Releasing latch allows range quadrant adjustment.
- *Front Sight Post* turns right for less elevation and leftfor more elevation. It compensates for headwind or rear wind.
- *Retainer.* Depressing retainer allows rear aperture to slide in or out.
- *Rear Aperture* compensates for wind from the right or the left.



BARREL LATCH

Locks barrel in the closed position.

Press latch and slide barrel forward to load the weapon.



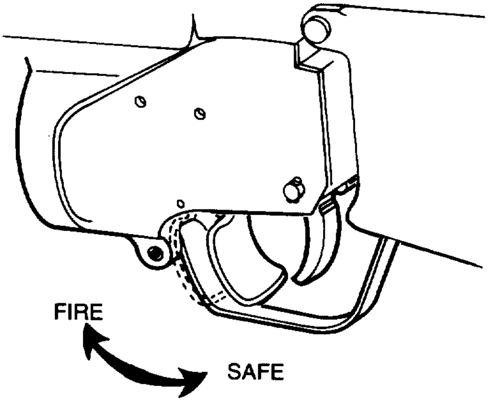
DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS (CONT)

TRIGGER AND SAFETY

Squeezing the trigger fires the launcher.

Keep safety on safe position until ready to fire. It's used to safe the launcher.

The safety has two positions: safe and fire.



Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

The operator must perform scheduled services to be sure the M203 grenade launcher will operate properly. Always keep in mind the WARNINGS AND CAUTIONS before and during operation. Perform PMCS procedures in the order listed. Be sure you perform your after (A) PMCS.

The “Equipment is NOT READY/AVAIlABLE IF" column indicates deficiencies which must be corrected before you can operate the M203 grenade launcher.

Perform after operations PMCS if: (1) you are the assigned operator and the weapon has been stored in the Arms Room and not used for a period of 90 days, or (2) you have been issued the weapon for the first time.

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

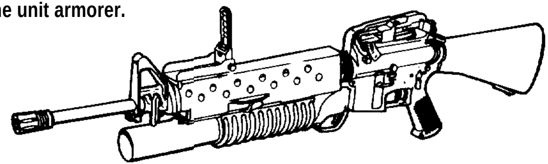
B-Before Operation D-During Operation A-After Operation

Item No.	Interval B	I	D	I	A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:

WARNING

Do not interchange barrel assemblies or components from one weapon to another. Doing so may result in injury to, or death of, personnel.

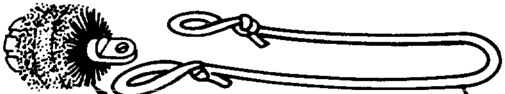
Item No.	B	I	D	I	A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
1	●					**Grenade Launcher and Rifle.** Open barrel, clear weapon (p 2-23). Make an overall visual inspection for missing or damaged components. Check to make sure that launcher is firmly attached to the rifle. Report any deficiencies to the unit armorer.	



PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

B-Before Operation D-During Operation A-After Operation

Item No.	Interval B	Interval D	Interval A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
2	●			**AUTHORIZED EQUIPMENT.** Check authorized equipment for serviceability and completeness (app B and C).	
3	●			**BARREL ASSEMBLY.** Wipe oil and debris from barrel bore and chamber (p 3-7).	



PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

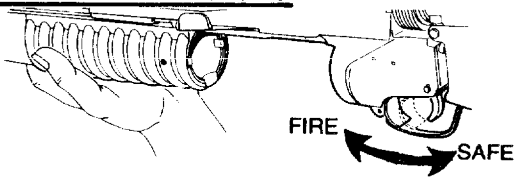
B-Before Operation D-During Operation A-After Operation

Item No.	Interval B	D	A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
4				**RECEIVER ASSEMBLY (FUNCTIONAL CHECK,** p 3-13).	

WARNING

The launcher could fire without squeezing the trigger if the sear does not function properly.

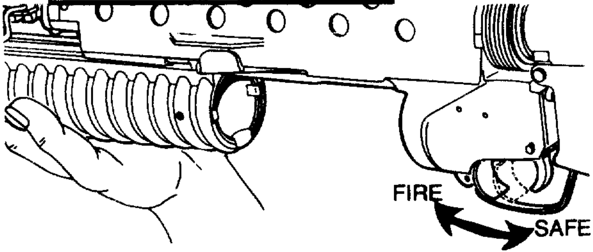
Item No.	B	D	A	Procedure	Equipment is NOT READY/AVAILABLE IF:
	●			a. Check for proper operation of sear. Make sure weapon is cleared. Cock the launcher and squeeze trigger. Firing pin should release. Hold trigger to rear, cock the launcher. Release trigger, then squeeze. Firing pin should release.	Sear does not function properly.



PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

B-Before Operation D-During Operation A-After Operation

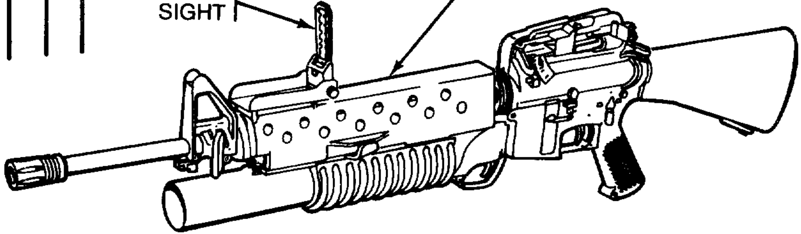
Item No.	Interval B	Interval D	Interval A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
	●			b. Check safety in both SAFE and FIRE positions with trigger. Place launcher in SAFE position. Move barrel forward and back to check barrel stop and barrel latch function. Report all deficiencies to unit armorer.	Safety does not function properly.



PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

B-Before Operation   D-During Operation   A-After Operation

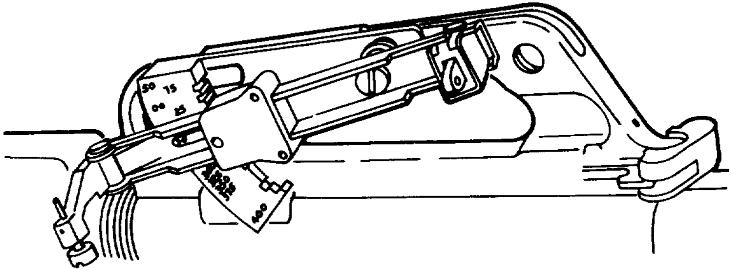
Item No.	Interval B	Interval D	Interval A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
5	●			**HAND GUARD AND LEAF SIGHT.** Check hand guard and leaf sight for damage. Check sight functioning (p 2-15). If defective, report to unit armorer.	



PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

B-Before Operation D-During Operation A-After Operation

Item No.	Interval B	D	A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
6	●			**QUADRANT SIGHT.** Check quadrant sight for damage. Check the sight functioning (p 2-16). Report deficiencies to the unit armorer.	



PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (CONT)

B-Before Operation D-During Operation A-After Operation

Item No.	Interval B	Interval D	Interval A	ITEMS TO BE INSPECTED Procedure	Equipment is NOT READY/AVAILABLE IF:
7		●		GRENADE LAUNCHER AND RIFLE. Observe operation and functioning for component failure. Report failures to unit armorer. Check bore frequently for debris. Clean bore if dirty (p 3-7).	
8			●	GRENADE LAUNCHER AND RIFLE. Feild strip (3-4). Inspect for damaged or missing components. Report deficiencies to unit armorer. Clean and lubricate in accordance with pages 3-7 through 3-12.	

Section III. OPERATION UNDER USUAL CONDITIONS

PREPARATION FOR FIRING

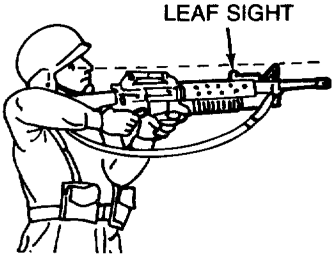
Perform your Before Operation (B) PMCS.

FIRING TECHNIQUE

USING M576 MULTIPURPOSE ROUND:

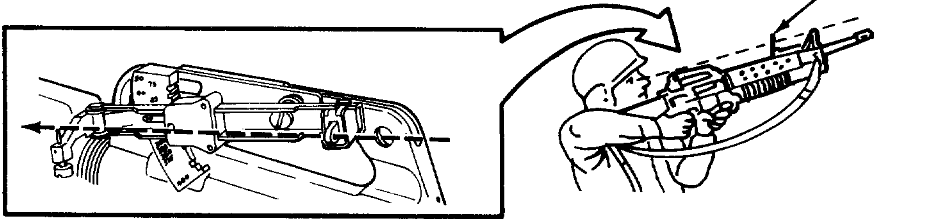
1 For short range targets, place leaf sight down and use rifle sights. Estimate distance to target and aim head high on the target.

2 For targets from 50 to 250 meters, raise leaf sight and use with rifle front sight.



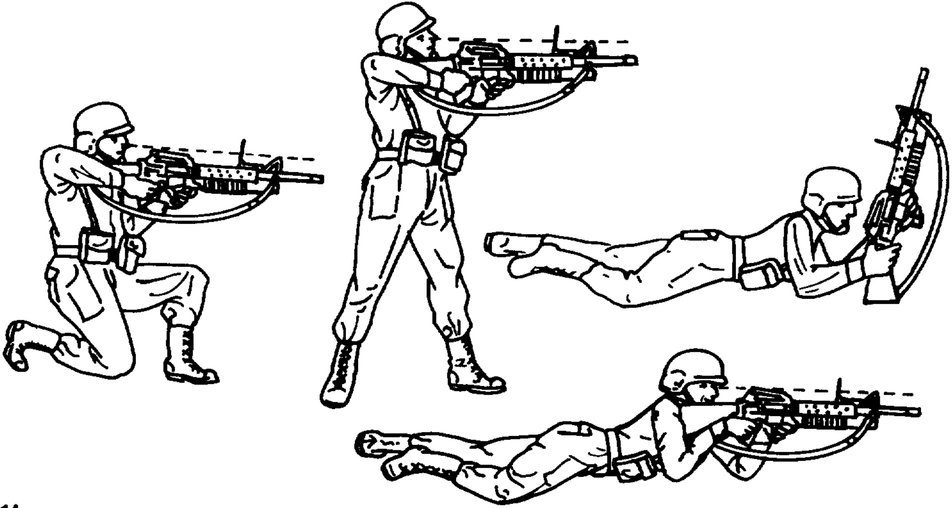
or

For targets from 50 to 400 meters, use front and rear sight of the quadrant sight only.



OPERATION UNDER USUAL CONDITIONS (CONT)

3 Launcher may be fired from standing, kneeling, or prone position. When firing long range from prone position, place stock of weapon on the ground. For all other positions, hold stock firmly against your shoulder.



4 LEAF SIGHT

Range

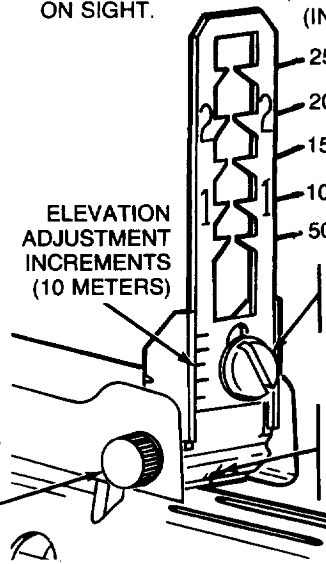
- Leaf sight scale marked in 50 meter (165 ft) increments for targets from 50 to 250 meters.

Headwind and Rear Wind.

- Loosen the elevation adjustment screw to move the leaf sight up to increase range for headwind. Lower it to decrease range for rear wind.
- Use the rim of a used 40-mm cartridge to turn the elevation adjustment screw.
- 1 increment = 10 meters (33 ft) at 200 meter (660 ft) range.

Left Wind and Right Wind

- Turn windage adjustment screw clockwise to adjust for wind from the left. Turn counterclockwise to adjust for wind from the right.
- 1 increment = 1.5 meters (5 ft) at 200 meter (660 ft) range.



OPERATION UNDER USUAL CONDITIONS (CONT)

5 QUADRANT SIGHT

Range

- Range quadrant is marked in 25 meter (83 ft) increments for targets from 50 to 400 meters (165 to 1320 ft).
- PulI latch toward you to release quadrant sight arm. Select elevation.
- Elevation adjustment: 1 notch = 5 meters (17 ft) at 200 meter (660 ft) range.

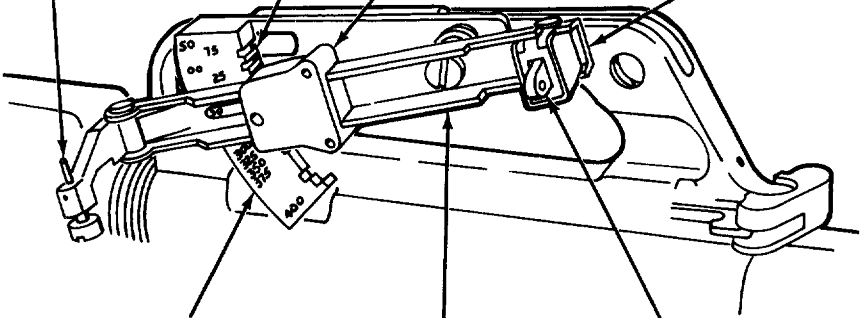
Headwind and Rear Wind

- Turn front sight post to increase range for headwind.
- Turn it right to decrease range for rear wind.

Left Wind and Right Wind

- Depress retainer and slide rear aperture in to adjust for wind from the right.
- Slide it out to adjust for wind from the left.
- Vertical line marks center. 1 notch 1.5 meters (5 ft) at 200 meter range.

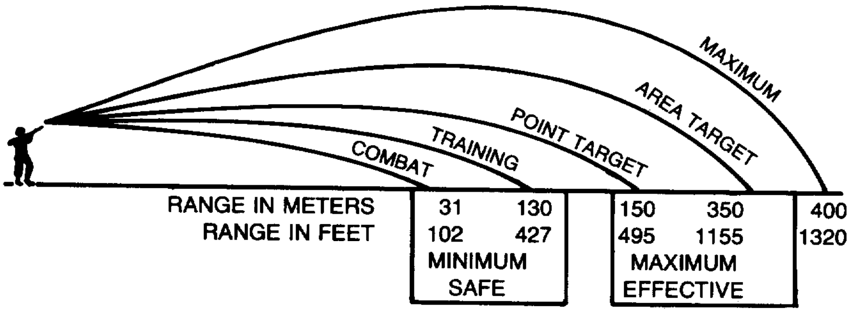
6 If a first round hit is not made, determine where grenade landed in relation to target (sensing) and adjust to bring next round on target.


FRONT SIGHT POST
NOTCH
LATCH
RETAINER
RANGE QUADRANT
QUADRANT SIGHT ARM
REAR APERTURE

OPERATION UNDER USUAL CONDITIONS (CONT)

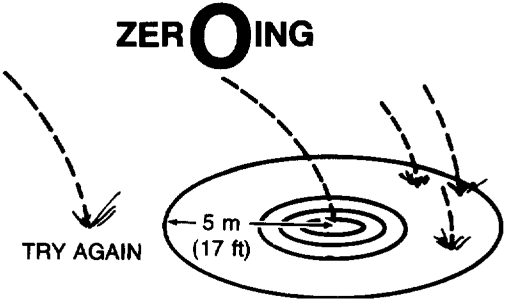
RANGE ESTIMATING

Hitting the target depends upon your ability to determine range.



WARNING

When you fire High Explosive (HE) grenades at targets within 130 meters (427 ft) (minimum safe), be in a protected position. When training (minimum safe), do not fire at targets within 130 meters (427 ft). When in combat, do not fire at targets closer than 31 meters (102 ft).



WARNING

Do not zero in under 100 meters (330 ft).

Select a target at 200 meters (660 ft) and fire a round. If the round does not fall within 5 meters (17 ft) of target, zero the weapon as follows.

1 Adjust sight for more or less elevation.

2 Adjust windage for each firing.

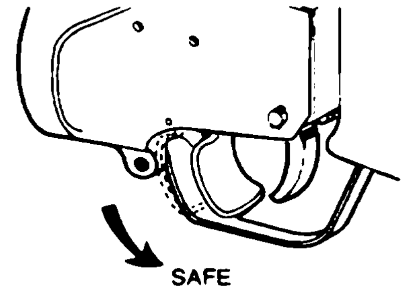
3 After each round is fired, adjust until three consecutive rounds land within 5 meters (17 ft) of aiming point.

LOADING AND FIRING

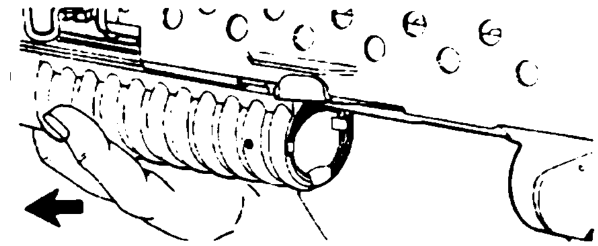
WARNING

Keep muzzle down range and clear of all troops

1 KEEP SAFETY IN SAFE POSITION UNTIL READY TO FIRE.



2 PRESS LATCH AND SLIDE BARREL FORWARD.



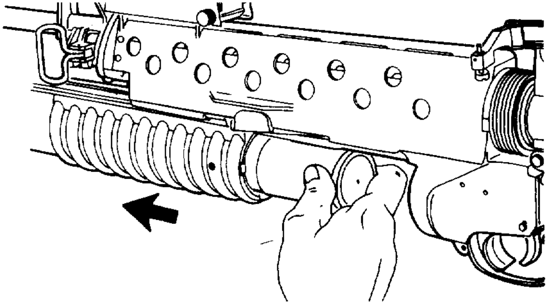
CAUTION

Before loading, make sure bore and chamber are dean and dry.

WARNING

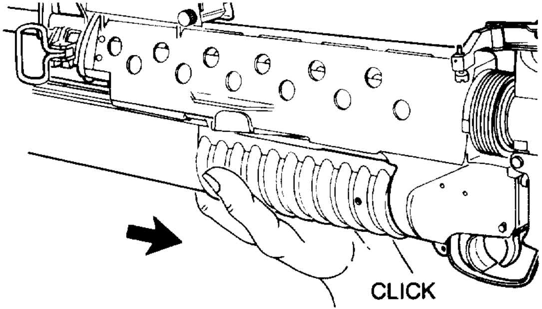
Do not fire Pyrotechnic Ammunition made for the AN-M8 Pyrotechnic Pistol in the Grenade Launcher M203. It is very dangerous.

Make sure you have the right ammunition. Never load aircraft ammunition M384 (HE) or M385 (practice) . . . You may blow your head off.



3 Insert ammunition into chamber.

4 Slide barrel closed until it locks (clicks).



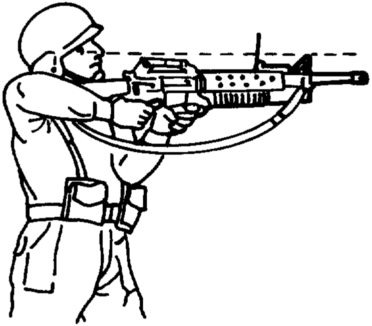
OPERATION UNDER USUAL CONDITIONS (CONT)

LOADING AND FIRING (CONT)

WARNING

Be sure there are no obstacles (sling, branches, etc) in line of fire.

5 Determine target distance and select range.
6 Move safety to fire position.
7 Aim and squeeze the trigger to fire.

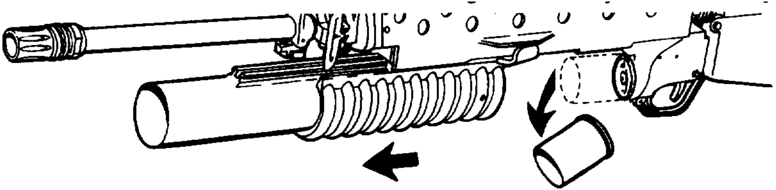


NOTE

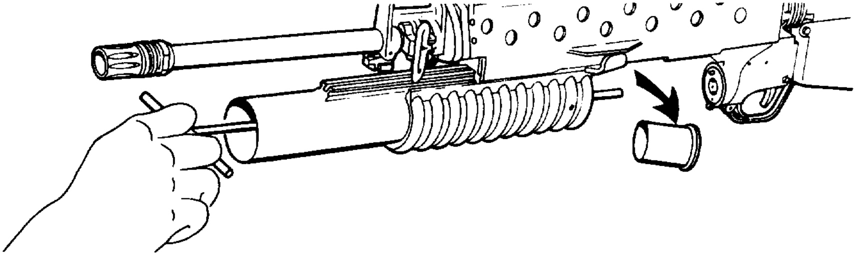
Practice breath control as you do when firing the rifle.

CLEARING

1 Press the latch and move barrel foward. The casing automatically extracts and ejects.



2 Stuck casing need a little help. Remove by tapping with rifle cleaning rod.



OPERATION UNDER USUAL CONDITIONS (CONT)

HANGFIRE

Hangfire: A delay in the propellant charge igniting.

WARNING

Keep muzzle on target and clear all personnel from the area (at least 80 meters or 284 feet). Wait 30 seconds before removing round.

1 Unload the round and catch it, or unload close to ground for a short fall.

2 Store the round at a safe distance away from serviceable ammunition until it is determined whether the round or the weapon is defective.

3 A dented primer is a hangfire. Handle accordingly.

MISFIRE

MISFIRE: A failure to fire. Handle the same way as a hangfire.

WARNING

KEEP MUZZLE ON TARGET and clear all personnel from the area (at least 80 meters or 264 feet). Wait 30 seconds before removing round.

1 If the primer is not dented, the firing mechanism is faulty. A dented primer is a hangfire. Handle accordingly.

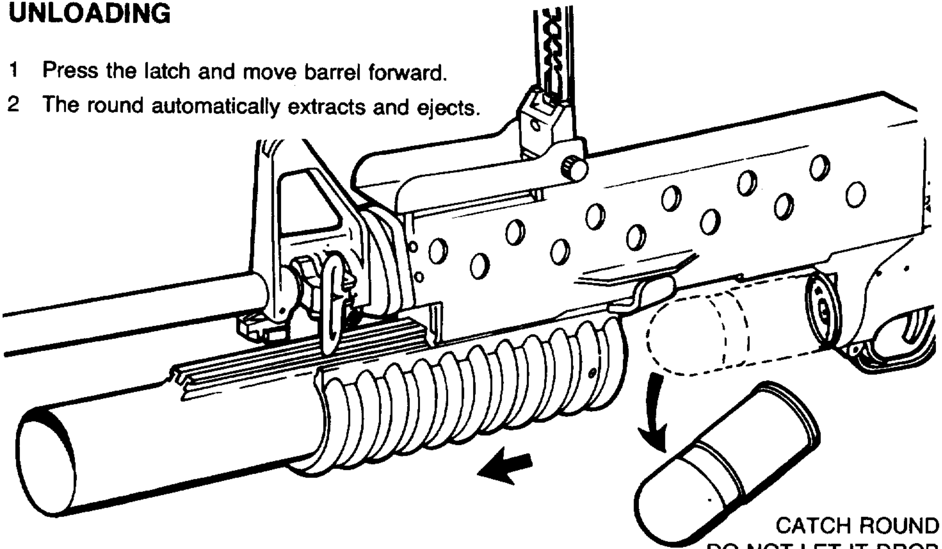
2 If the mechanism is repaired, the round may be reloaded and fired.

3 See your NCO or unit armorer.

UNLOADING

1 Press the latch and move barrel forward.

2 The round automatically extracts and ejects.

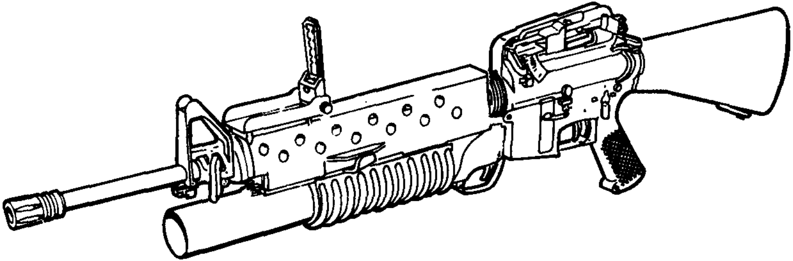


Section IV. OPERATION UNDER UNUSUAL CONDITIONS

Under unusual conditions, clean and lubricate launcher more often.

HOT, DUSTY, AND SANDY AREAS. Clean often. Oil frequently because heat dissolves the oil rapidly. Wipe oil from exposed surfaces. Cover weapon as much as possible. Keep sand out of parts.

RAINY, HUMID, AND SALTY AIR contaminate the lube and cause corrosion. Inspect grenade launcher daily. Dry, clean, and lubricate as necessary.



OPERATION UNDER UNUSUAL CONDITIONS (CONT)

BELOW FREEZING TEMPERATURES. Keep weapon wrapped in a parka or blanket when it's brought in from a cold to a warm area. Allow it to reach room temperature gradually. If condensation forms, dry and lube at room temperature before taking it out again into cold weather; otherwise ice will form in the mechanism. Keep ice and snow out of operating parts.

AFTER IMMERSION IN WATER, disassemble, clean, oil, and reassemble as soon as possible. Make sure launcher is dry.

NOTE

Keep the weapon clean and Iubed with CLP (item 1, app D).

Section V. NUCLEAR, BIOLOGICAL AND CHEMICAL (NBC)

General procedures can be found in FM 3-87, FM 21-40, and TM 3-220.

CHAPTER 3
MAINTENANCE INSTRUCTIONS

Section I. LUBRICATION INSTRUCTIONS

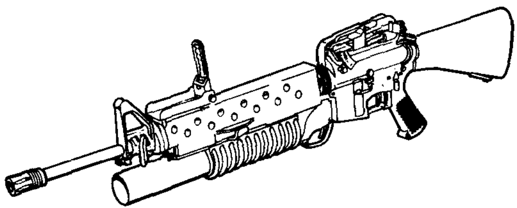
1 Periodic lubrication can be performed without disassembling. Keep the weapon clean and lubricated even when you don’t use it for a while.

2 Perform required lubrication during maintenance procedures.

3 CLP (item 1, app D) is the authorized lubricant. It has a temperature range of –65°F (53°C) to 150°F (66°C).

LUBE GUIDE

- When operating, clean and lubricate grenade launcher daily after operation.
- When in inactive storage, clean and lubricate grenade launcher quarterly or when corrosion appears.



Section II. TROUBLESHOOTING PROCEDURES

INTRODUCTION

a. The table lists the common malfunctions you may find when you operate or maintain the grenade launcher or its components. Perform the test/inspections and corrective actions in the order listed.

b. This troubleshooting table can't list all possible malfuntions or corrective actions. See your supervisor for any problems not in the table.

TROUBLESHOOTING

PROBLEM	CHECK FOR	HOW TO FIX IT
FAILURE TO FIRE	Too much oil or water in back of breech insert.	Point weapon up 10-15 seconds and hand function (p 3-12).
	Dirt and/or residue in firing pin hole	Clean (p 3-8).
	Dirt in locator slot	Clean (p 3-8).
	Faulty ammunition	Replace (p 2-24).
FAILURE TO EXTRACT	Casing stuck in barrel	Remove with rifle cleaning rod (p 2-23).
FAILURE TO CHAMBER	Faulty ammunition or dirty chamber	Replace ammunition or clean bore and chamber (p 3-7).
FAILURE TO LOCK	Dirty follower or receiver cavity	See your NCO or unit armorer.

Section III. MAINTENANCE PROCEDURES

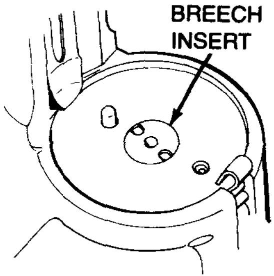
INSPECTION

WARNING

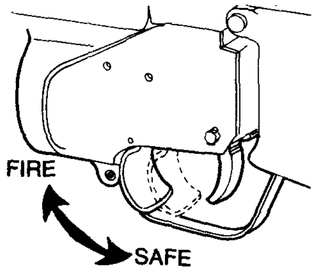
Be sure weapon is NOT loaded.

1 Check your launcher for cracks, burrs, wear, dents, rust, dirt, and corrosion. Inspect bore for dirt, water, oil, and foreign matter.

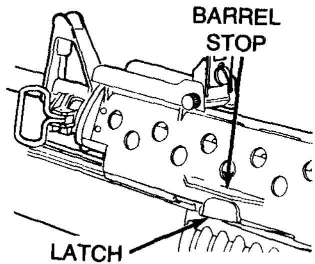
2 Check for loose or protruding breech insert.



3 Check safe and fire positions (p 3-14).



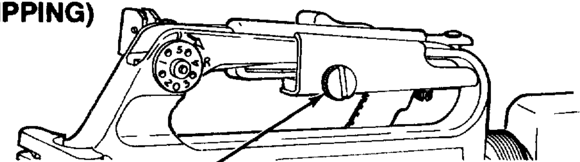
4 Check barrel stop and latch.



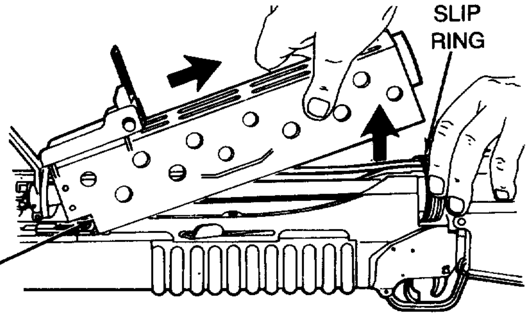
5. Check for missing or broken parts. See your NCO or unit armorer for repairs.

MAINTENANCE PROCEDURES

DISASSEMBLY (FIELD STRIPPING)



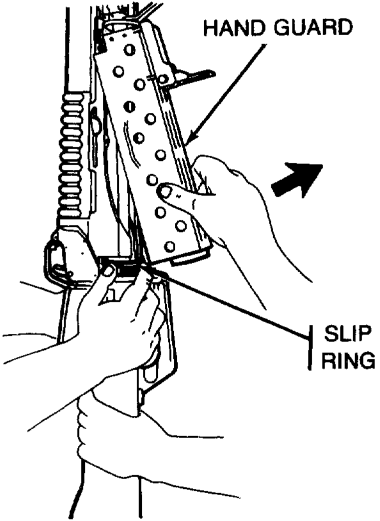
1. Remove the quadrant sight (if used) by loosening the knurled screw on the right side of the weapon.
2. Pull back slip ring. Lift up on hand guard and pull to rear to remove.



NOTE

If you have difficulty removing the hand guard, use buddy system.

3 Stand the weapon on the buttstock. Grip the stock with one hand and the lower end of hand guard with the other hand. Have your buddy press down with both hands on the slip ring. Pull hand guard free.

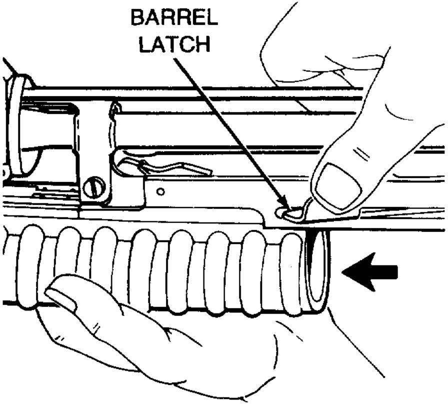


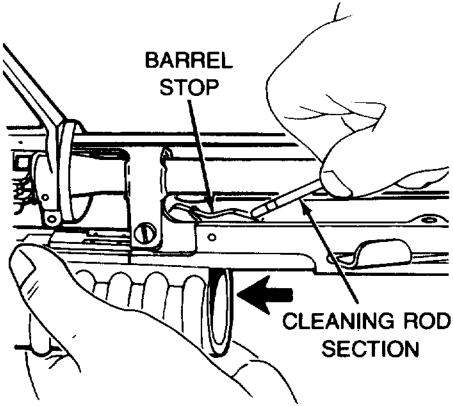
MAINTENANCE PROCEDURES (CONT)

DISASSEMBLY (FIELD STRIPPING) (CONT)

4 Press barrel latch and move barrel forward to stop.

5 Press barrel stop to release barrel from receiver. Remove barrel.

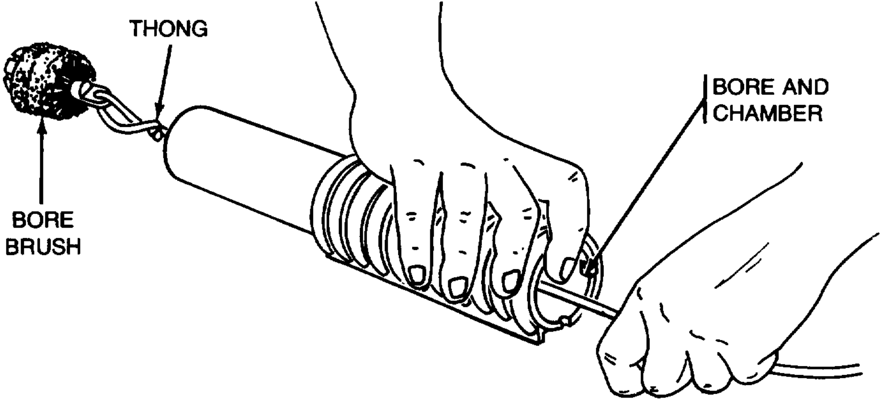




CLEANING

NOTE

Caring for your launcher is simply good insurance. A little preventive maintenance on your part will prevent malfunctions.



1 Clean bore and chamber with bore brush. thong, and CLP (item 1, app D).

MAINTENANCE PROCEDURES (CONT)

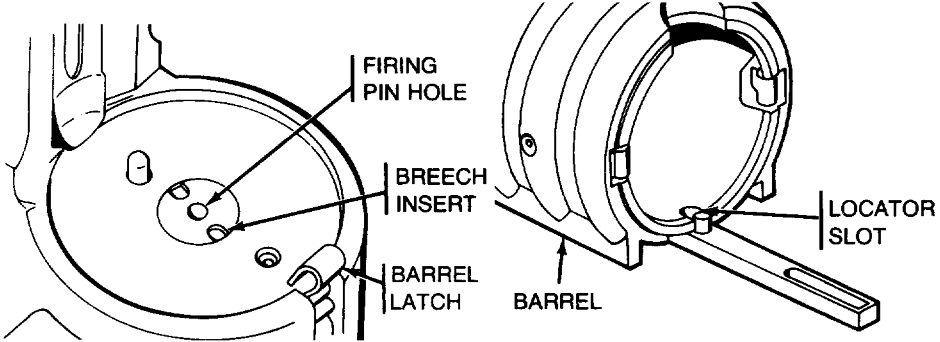
CLEANING (CONT)

2 Clean area around breech insert and firing pin hole using CLP(item 1, app D).

3 Clean all the dust and dirt from weapon using CLP(item 1, app D) and wiping rag (item 2, app D).

4 Keep locator slot clean.

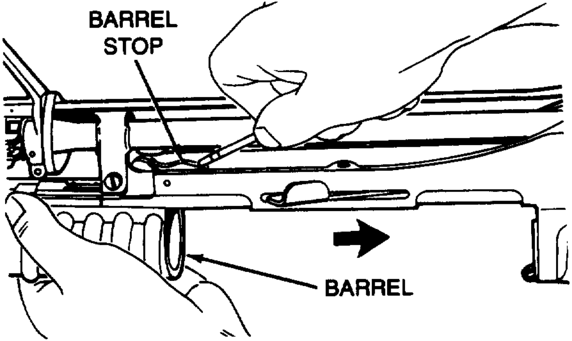
5 Wipe inside of barrel with wiping rag (item 2, app D) soaked in CLP (item 1, app D).



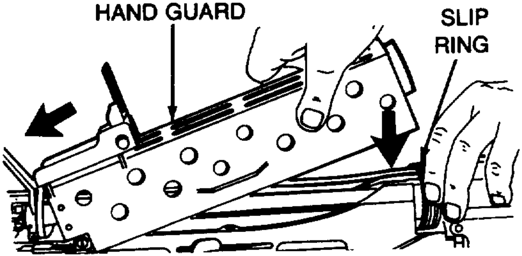
REASSEMBLY

1 Press barrel stop. Slide barrel onto receiver.

2 Move barrel rearward to close.



3 Install hand guard and secure with slip ring.



NOTE

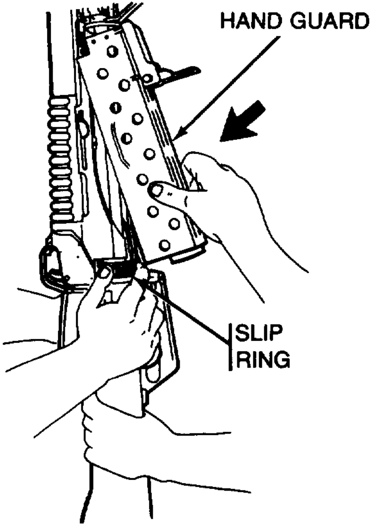
If you have difficulty installing the hand guard, use buddy system.

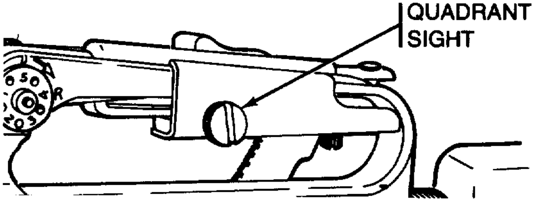
MAINTENANCE PROCEDURES (CONT)

REASSEMBLY (CONT)

4 Stand the weapon on the buttstock. Grip the stock with one hand and the lower end of hand guard with the other hand. Have your buddy press down with both hands on the slip ring. Install hand guard.

5 Install quadrant sight and tighten knurled screw on right side.

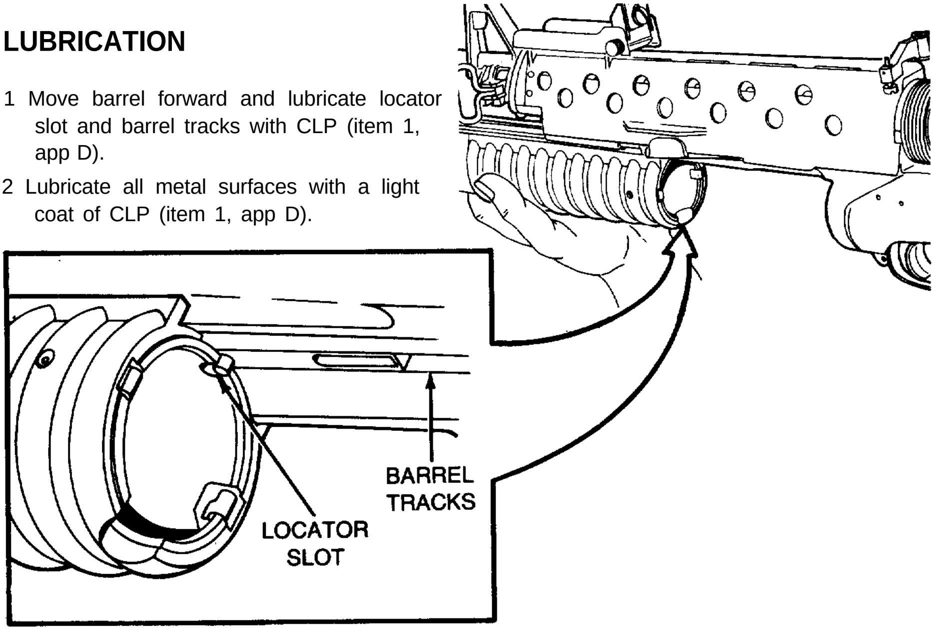




LUBRICATION

1 Move barrel forward and lubricate locator slot and barrel tracks with CLP (item 1, app D).

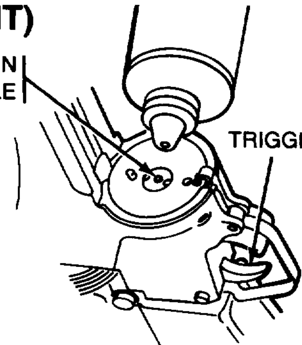
2 Lubricate all metal surfaces with a light coat of CLP (item 1, app D).



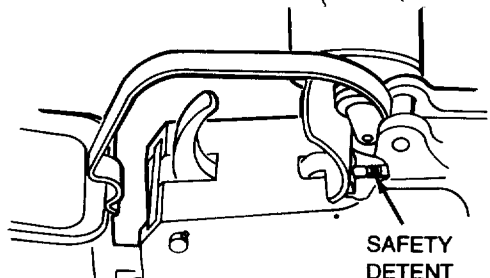
MAINTENANCE PROCEDURES (CONT)

LUBRICATION (CONT)

3 With barrel installed, apply a few drops of CLP (item 1, app D) through firing pin hole. Keep weapon pointed up 10-15 seconds. Cycle weapon and squeeze trigger to spread the oil.



4 Turn launcher upside down and lubricate safety detent with CLP (item 1, app D). It's in the receiver in front of the safety.

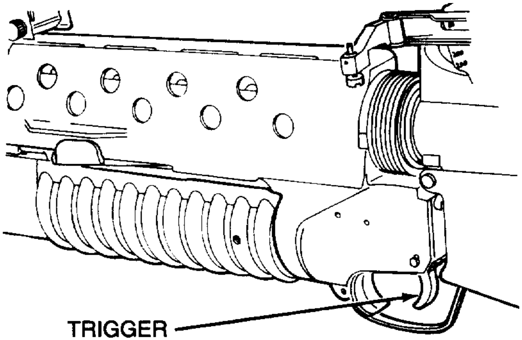


FUNCTIONAL CHECKS

WARNING

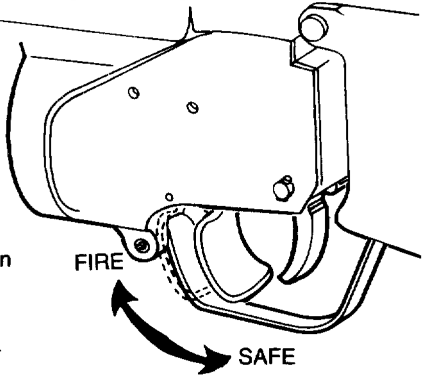
Be sure weapon is unloaded.

1 Cock launcher and squeeze the trigger. Firing pin should release.



2 Hold trigger to rear and cock launcher. Release trigger and then squeeze trigger. Firing pin should release.

FUNCTIONAL CHECKS (Cont)

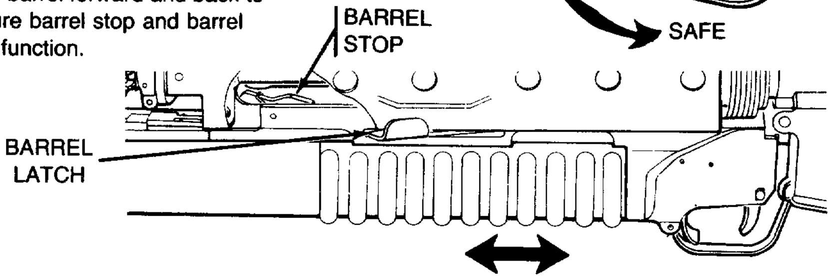


WARNING

The launcher could fire without squeezing the trigger if the sear does not function properly.

3 Check safety in both safe and fire positions with trigger. Launcher must be cocked before safety can be placed in safe position.

4 Move barrel forward and back to be sure barrel stop and barrel latch function.



CHAPTER 4
AMMUNITION

Section I. GENERAL INFORMATION

WARNING

Do not fire ammunition not made for use In the M203 grenade launcher. Doing so will result in injury to, or death of, personnel.

The only types of ammunition authorized for use in your grenade launcher are contained in this TM. If ammunition is shown, it s authorized.

The authorized types of ammunition are listed by their color coding, classes, arming ranges, and special information where required.

If ammunition fails to fire in your weapon, turn it in to unit armorer for disposition.

Section II. TYPES OF AMMUNITION

40-MM AMMUNITION TRAINING PRACTICE ROUNDS

WARNING

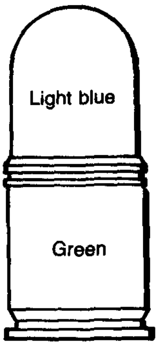
The 407A1 practice round fuze arms between 14 to 27 meters (46 to 89 ft).

WARNING

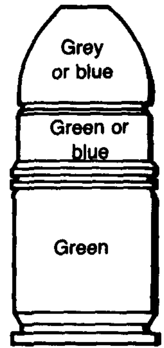
The danger radius of practice grenades is 20 meters (66 ft).

NOTE

The M781 practice round is completely inert and contains no fuze.



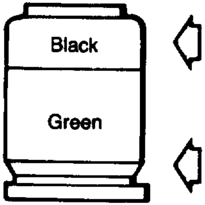
M781



M407A1

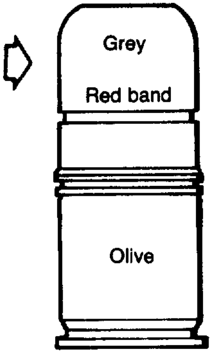
40-MM AMMUNITION MULTIPLE PURPOSE AND CHEMICAL ROUNDS

MULTI-PURPOSE ROUND (Buckshot)



M576

CHEMICAL ROUND (Tactical CS)



M651

WARNING

The M651 arms between 10 to 30 meters (33 to 99 ft).

WARNING

When firing M576 cartridge from the M203 launcher, be sure to aim at the foot of the target.

NOTE

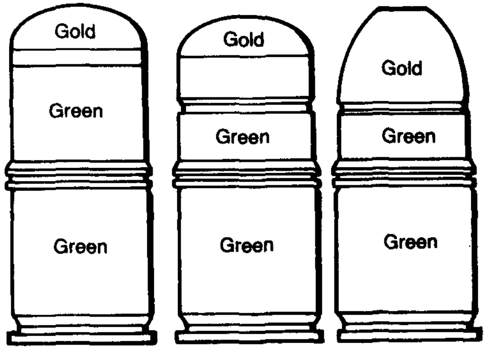
The multipurpose round contains no mechanical-type fuze.

TYPES OF AMMUNITION (CONT)

40-MM AMMUNITION HIGH EXPLOSIVE (HE) SERVICE

WARNING

The danger radius of the HE Grenades is 130 meters (427 ft). The M386, M397, M397A1, M406, and M433 rounds arm within 14 to 27 meters (46 to 89 ft). The M361 and M441 rounds arm within 2.4 to 3 meters (8 to 10 ft).

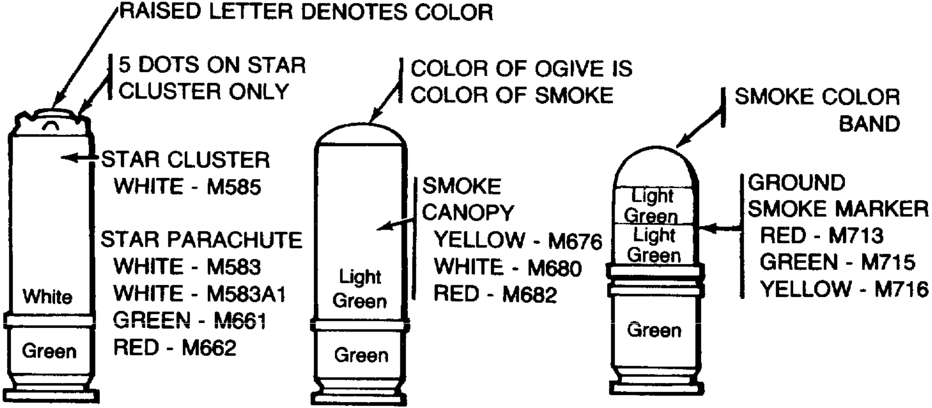


JUMP UP FRAGMENTATION
M397
M397A1

HEDP
DUAL PURPOSE
M433

HE
M381
M406
M386
M441

40-MM AMMUNITION PYROTECHNIC SIGNAL AND SPOTTING ROUNDS



Section III. CARE AND PRESERVATION

Aluminum cases are easily dented and may be hard to chamber and extract. Be careful! None of these rounds contain a mechanical-type fuze. Keep ammunition dry, clean, and free of grease, sand mud, snow and ice.

APPENDIX A
REFERENCES

A-1. SCOPE. This appendix lists all field and technical manuals and Army regulations referenced in this manual.

A-2. FIELD MANUALS.

FM 3-87 . . . . Nuclear, Biological, and Chemical (NBC) Reconnaissance and Decontamination Operations (How To Fight)

FM 21-11 . . . . First Aid for Soldiers

FM 21-40 . . . . NBC (Nuclear, Biological, and Chemical) Defense

FM 23-31 . . . . 40-MM Grenade Launchers M203 and M79

A-3. TECHNICAL MANUALS.

TM 3-220 . . . . Chemical, Biological, and Radiological (CBR) Decontamination

A-4. MISCELLANEOUS PUBLICATIONS.

DA PAM 738-750 . . . . The Army Maintenance Management System (TAMMS)

APPENDIX B
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

B-1. SCOPE. This appendix lists components of end item and basic issue items for the M203 grenade launcher to help you inventory items required for safe and efficient operation.

B-2. GENERAL. The Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. *Section II. Components of End Item.* This listing is for informational purposes only and is not authority to requisition replacements. These items are part of the end item but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

INTRODUCTION (CONT)

b. *Section Ill. Basic Issue Items.* These are the minimum essential items required to place the M203 grenade launcher in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged. Bll must be with the M203 grenade launcher during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement Bll, based on TOE/MTOE authorization of the end item.

B-3. EXPLANATION OF COLUMNS. The following provides an explanation of columns in the tabular listings:

a. *Column (1) - Illustration Number (lllus Number).* Indicates the number of the illustration in which the item is shown.

b. *Column (2) - National Stock Number.* Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

c. Column (3) - Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

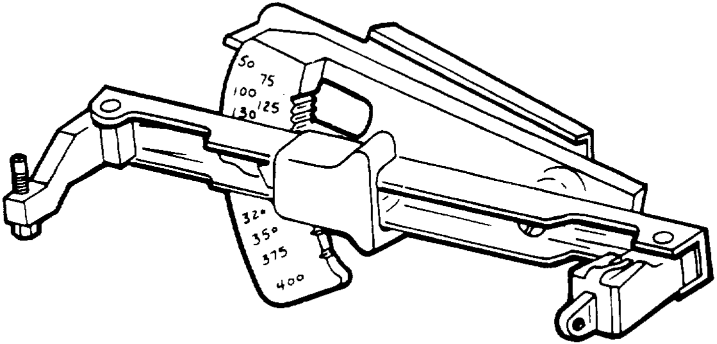
d. *Column (4) - Unit of Measure (U/M).* Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr).

e. *Column (5) - Quantity Required (Qty rqr).* Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

There are no components of the end item.

Section III. BASIC ISSUE ITEMS



NATIONAL STOCK NUMBER	DESCRIPTION FSCM AND PART NUMBER	U/M	QTY RQR
1010-01-122-9680	SIGHT, RIFLE GRENADE LAUNCHER: Quadrant (19200) 9346304	EA	1

APPENDIX C
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

C1. SCOPE. This appendix lists additional items you are authorized for the support of the M203 grenade launcher.

C-2 GENERAL. This list identifies items that do not have to accompany the M203 grenade launcher and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

C-3. EXPLANATION OF LISTING. National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

Section II. ADDITIONAL AUTHORIZATION LIST

NATIONAL STOCK NUMBER	DESCRIPTION QTY FSCM AND PART NUMBER USABLE ON CODE	U/M	AUTH
1010-00-474-5466	BRUSH, BORE CLEANING: (19204) 7790665	EA	1
1010-00-474-5465	THONG, BORE BRUSH: (19204) 7790631	EA	1

APPENDIX D
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D1. SCOPE. This appendix lists expendable/durable supplies and materials you will need to operate and maintain the M203 grenade launcher. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

B2. EXPLANATION OF COLUMNS.

a. *Column (1) - Item Number.* This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., “Use cleaner, lubricant and preservative, item 1, app D").

b. *Column (2) - Level.* This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

INTRODUCTION (CONT)

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. *Column (4) - Description.* Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. *Column (5) - Unit of Measure (U/M).* Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C		CLEANER, LUBRICANT AND PRESERVATIVE:	
			(81349) MIL-L-63460	
		9150-01-102-1473	1/2 oz bottle	OZ
2	C		RAG, WIPING: cotton	
			(58536) AA-531	
		7920-00-205-1711	50 lb bdl	EA

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By Order of the Secretary of the Army:

JOHN WICKHAM, JR.
General, ***United States Army***
Chief of Staff

official:

DONALD J. DELANDRO
Brigadier General, United States Amy
The Adjutant General

Distribution:

To be **distributed** . **accordance with** DA Form 12-40, Operator and Crew Maintenance requirements for Launcher, Grenade,

S. G. 1991 ,261-872/21515

CHANGE

No. 4

TM 9-1010-221-10
C4

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D, C., 24 June 1992

Changes in Force: Cl, C2, and C3

Operator's Manual
GRENADE LAUNCHER 40-MM, M203
(101 0-00-1 79-6447)

TM 9-1010-221-10, 17 December 1984, is changed as follows:

Page b, add the following WARNING:

WARNING

Hearing protection is required for the user and all adjacent nel on fi on firing range, when using Carti dge.

Page 2-20, add the WARNING, same as above.

Page 4-1, add the WARNING, same as above.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the Secretary of the Army

02002

DISTRIBUTION:

To be distributed in accordance with DA Form 12-40-E, (Block 0544), Operator's Maintenance Requirements for TM 9-1010-221-10.

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